

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
4 August 2005 (04.08.2005)

PCT

(10) International Publication Number  
**WO 2005/071941 A2**

(51) International Patent Classification<sup>7</sup>: **H04N 3/09**

(21) International Application Number:  
PCT/GB2005/000239

(22) International Filing Date: 21 January 2005 (21.01.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
0401389.2 22 January 2004 (22.01.2004) GB

(71) Applicant (for all designated States except US): **FARRAN TECHNOLOGY LIMITED** [IE/IE]; Ballincollig Industrial Estate, Ballincollig, County Cork (IE).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **LETTINGTON, Alan, Harold** [GB/GB]; 5 Crosfields Close, Reading, Berkshire RG2 9AY (GB).

(74) Agent: **CARSTAIRS, J., C.**; Forrester Ketley & Co, Forrester House, 52 Bounds Green Road, London N11 2EY (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

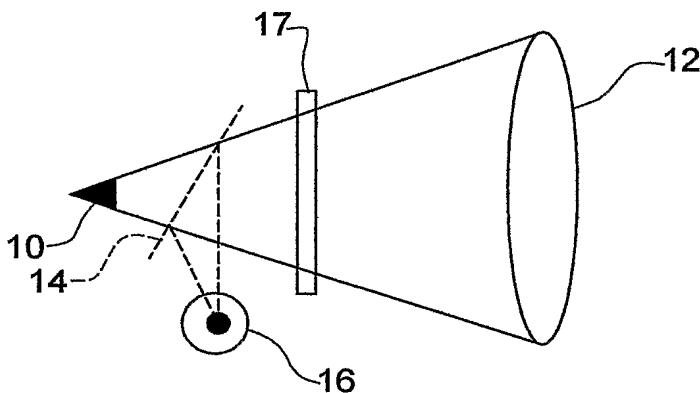
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **ILLUMINATION METHOD AND APPARATUS**



(57) Abstract: Imaging apparatus is disclosed for passive microwave, millimetre wave, sub-millimetre wave or infrared imaging, the apparatus including a receiver (10) for receiving radiation from the scene or subject being imaged, means for directing such radiation onto the receiver, a cold source (16) or a hot source (16), i.e. a source with a low or high black body temperature, and means (14, 14a) for directing the image or shadow of said cold source or hot source onto the scene or subject being imaged. The result is to produce improved contrast in the image obtained. Imaging apparatus is also disclosed for imaging an object (102) in the microwave, millimetre wave, sub-millimetre wave or infrared ranges in which a retroreflector such as a cube-corner reflective array

(104) is arranged facing the object and disposed laterally with respect of the line of sight between the object and an imaging device (100) and in which such radiation is directed onto the object, from a radiation source, along a path corresponding to or close to that line of sight. Consequently light from the radiation source, reflected laterally from the object, will be reflected, in turn, by the cube-corner array, back substantially along the path which it followed from the object to the cube-corner array, to be reflected in turn, by the object, back to the imaging device. The apparatus therefore ensures that specularly reflective parts of the object (102) appear bright in the resulting image.

WO 2005/071941 A2